

THE INTERNATIONAL RESEARCH GROUP ON WOOD PRESERVATION

The 35th Annual Meeting of IRG

Technical programme and Abstracts

**IRG Secretariat
SE-100 44 Stockholm
Sweden**

THE INTERNATIONAL RESEARCH GROUP ON WOOD PRESERVATION

The 35th Annual Meeting of IRG

**Part 1
Technical programme**

**IRG Secretariat
SE-100 44 Stockholm
Sweden**

MONDAY 7 JUNE

Linhart Hall

10.30-12.00

Section 1 Biology, Main session

Chairman: Dr Robin Wakeling

Vice-chairman: Dr Frederick Green III

IRG/WP 04-10533

Sequestration of copper ions by the extracellular mucilaginous material (ECMM) of two wood rotting basidiomycetes

D Vesentini, D J Dickinson, R J Murphy

IRG/WP 04-10523

A Novel Type of Multiple Cavity Attack in Wood Cell Walls of Heat-treated Timber Exposed in Seawater – Preliminary Observations

R A Eaton, C Björdal, T Nilsson

IRG/WP 04-10527

Development and Implementation of a DNA – RFLP Database for Wood Decay and Wood Associated Fungi

S V Diehl, T C McElroy, M L Prewitt

IRG/WP 04-10512

Identification of brown rot fungi on wood in above ground conditions by PCR, T-RFLP and sequencing

U Råberg, N Högberg, C J Land

13.30-15.00

Special session, Wood preservation in Eastern Europe

Convener: Dr Jeffrey J Morrell

IRG/WP 04-30361

Wood preservation in Slovenia
M Humar, F Pohleven

IRG/WP 04-30360

Wood preservation in Croatia
R Despot, M Hasan

IRG/WP 04-30362

Wood preservation in Poland
A Kundzewicz

IRG/WP 04-10538

Wood preservation research at the Technical University in Zvolen – Slovakia
L Reinprecht

IRG/WP 04-30363

Wood preservation in Lithuania
J Saladis

MONDAY 7 JUNE

Linhart Hall	Kosovel Hall	Room E1
15.30-17.30		
WP 5.2 Enviromental risk assess. Convener: Dr Ed Baines	WP 3.2 New wood protect. chem. Convener: Prof Dr Marko Petric	WP 1.3 Bluestain and moulds Convener: Ms Isabelle Le Bayon
<p>IRG/WP 04-50216 Volatile organic compounds (VOC) measured during drying of impregnated timber N Terziev, V Djokic</p> <p>IRG/WP 04-50208 Depletion of boron and copper from CCB treated test specimens using different leaching protocols E Melcher, R-D Peek, U Schoknecht, R Wegner</p> <p>IRG/WP 04-50213 Fixation and leaching characteristics of Douglas-fir treated with CCA-C G-H Kim, Y-S Song</p> <p>IRG/WP 04-50219 Leaching of copper from ACQ treated wood exposed above ground P A Chung, J N R Ruddick</p> <p>IRG/WP 04-50220 Metal Leaching from Pressure Treated Wood in Sanitary Landfill Leachate B Dubey, T G Townsend, H Solo-Gabriele</p> <p>IRG/WP 04-50214 Cu, Cr and As in soils adjacent to CCA treated utility poles in Eastern Black Sea Region of Turkey E D Gezer, Ü C Yildiz, A Temiz, S Yildiz, E Dizman</p> <p>IRG/WP 04-20302 Leaching of active components from preservative-treated timber. Stage 1: Semi-field testing N Morsing, B Lindegaard</p> <p>IRG/WP 04-20303 Leaching of active components from preservative-treated timber. Stages 2 & 3: Laboratory testing and comparison with semi-field testing N Morsing, B Lindegaard</p>	<p>IRG/WP 04-30330 Evaluation of hydroxamates as wood preservatives P Gérardin, S Dumarçay, E Gelhaye, A Mbamba, V Mussavu</p> <p>IRG/WP 04-30331 Synergistic effects between 2-HPNO, Irganox 1076 and EDTA on the inhibition of wood degradation by <i>Coriolus versicolor</i> A Mabicka, S Dumarçay, N Rouhier, M Linder, J P Jacquot, P Gérardin, E Gelhaye</p> <p>IRG/WP 04-30334 Decay and termite resistance of wood treated with boron-containing quaternary ammonia compound, didecyl dimethyl ammonium tetrafluoroborate (DBF) incorporated with acryl-silicon type resin S N Kartal, W-J Hwang, K Shinoda, Y Imamura</p> <p>IRG/WP 04-30339 Ability of chitosans to limit wood decay under laboratory conditions M Maoz, J J Morrell</p> <p>IRG/WP 04-30345 Field tests of molybdenum and tungsten baits for termite control Y Katsuda, K Nakayama, C Vongkaluang</p> <p>IRG/WP 04-30346 Screening of modified linseed oils on their applicability in wood protection A Treu, J Lückers, H Militz</p> <p>IRG/WP 04-30347 Antifungal properties of new quaternary ammonium and imidazolium salts against wood decay, staining and mould fungi J Zabielska-Matejuk, W Wieczorek</p>	<p>IRG/WP 04-10529 <i>Aureobasidium</i> or <i>Hormonema</i>? A Genetic Approach M J Ray, D J Dickinson, M Buck</p> <p>IRG/WP 04-10534 Database of sapstain fungi affecting lumber, logs and trees S Lee, F de Giuli Vallverdu, S Alamouti, J-J Kim, A Uzunovic, C Breuil</p> <p>IRG/WP 04-10505 Fungal Stain Development in Canadian Hardwood Logs D-Q Yang, M-C Bisson</p> <p>IRG/WP 04-10515 The effect of primary blue-staining fungi on the strength properties of Scots pine sapwood A Fojutowski</p> <p>IRG/WP 04-10507 <i>In vitro</i> studies on the effect of chitosan on mycelium and spore germination of decay fungi, moulds and staining fungi C Chittenden, B Kreber, N McDowell, T Singh</p> <p>IRG/WP 04-10543 16S rRNA Analysis of the Bacteria Associated with Biocide Degradation D F Wallace, D J Dickinson</p> <p>IRG/WP 04-10544 Studies on the Toxicity of IPBC and Other Biocides to Bacteria S R Cook, D J Dickinson</p>

	IRG/WP 04-30351 Leachability and efficacy of fatty acid derived boron esters as wood preservatives A Mohareb, J Van Acker, M Stevens	
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TUESDAY 8 JUNE

Linhart Hall

08.30-10.00

Section 3 Wood protection chemicals, Main session

Chairman: Dr Gareth R Williams

Vice-chairman: Dr Jeff Lloyd

IRG/WP 04-20293

Penetration as Key Factor for Determining the Performance of Wood Preservatives

H Leithoff, I Stephan, R D Peek

IRG/WP 04-30333

Multicomponent biocide systems protect wood from decay fungi, mold fungi, and termites for interior applications

C A Clausen, V W Yang

IRG/WP 04-30335

Environmentally-benign wood preservatives based on organic biocide:antioxidant combinations: A brief review of laboratory and field exposure results and discussion of proposed mechanism

T Schultz, D Nicholas, W Henry, C Pittman, D Wipf, B Goodell

IRG/WP 04-30353

Durability of some alternatives to preservative treated wood

M-L Edlund

IRG/WP 04-30358

Prevention of Termite Tubing Over Non-Wood Construction Materials Using Glycol Borate

W R Smith, J D Lloyd

TUESDAY 8 JUNE

Linhart Hall

10.30-12.00

Section 5 Environmental aspects, Main session

Chairman: Dr Gérard Deroubaix

Vice-chairman: Prof Dr Pascal Kamdem

IRG/WP 04-50215

Why did Japan replace CCA by alternatives?

H Ishida, T Ito, M Yamai, H Matsusaka, K Tsunoda

IRG/WP 04-50218

Preservative treated wood as a component in the recovered wood stream in Europe – a quantitative and qualitative review

R J Murphy, P Mc Quillan, J Jermer, R-D Peek

IRG/WP 04-50222

Future Directions Regarding Research on the Environmental Impacts of Preservative-Treated Wood

H Solo-Gabriele, J D Schert, T G Townsend

IRG/WP 04-50209

Experiences with the OECD guideline proposals for the estimation of emissions from preservative treated wood in the environment

U Schoknecht, R Wegner, E Melcher

TUESDAY 8 JUNE

Linhart Hall	Kosovel Hall	Room E1
13.30-15.00		
WP 4.4 Treatment processes Convener: Dr Andreas Rapp	WP 3.1 Diffusible wood pres. Convener: TBA	WP 1.6 Marine Convener: Dr Laurie Cookson (acting)
<p>IRG/WP 04-40271 Microwave treatment to accelerated fixation of copper-ethanolamine (Cu-EA) treated wood J Cao, D P Kamdem</p> <p>IRG/WP 04-40276 Potential for using dip/supercritical fluid treatments for wood impregnation S M Kang, J J Morrell</p> <p>IRG/WP 04-10503 Cellular and fractural failure after supercritical fluid impregnation of four wood species M E Anderson, R J Leichti, J J Morrell</p> <p>IRG/WP 04-40277 Anatomical Characteristics to the Distribution of Water-borne Copper Wood Preservatives in Wood H Matsunaga, J Matsumura, K Oda</p> <p>IRG/WP 04-40280 A novel method for delivering fluids into bolted wooden components G S Sawyer, B Tole</p>	<p>IRG/WP 04-30343 Six-year Report on the Performance of Borate-treated Lumber in an Above-ground Termite Field Test in Hawaii J K Grace, A Byrne, P I Morris, K Tsunoda</p> <p>IRG/WP 04-30344 Performance of borate-treated lumber in a protected, above-ground field test in Japan K Tsunoda, A Byrne, P I Morris, J K Grace</p> <p>IRG/WP 04-30348 Fungicidal properties of boron containing preservative Borosol 9® G Babuder, M Petrič, F Čadež, M Humar, F Pohleven</p> <p>IRG/WP 04-30349 Chemical Analysis of Southern Pine Pole Stubs Thirty-Nine Months Following Treatment with Three Methylisothiocyanate-Based Fumigants R J Ziobro, J Fomenko, D J Herdman, J Guzzetta, T Pope</p> <p>IRG/WP 04-30355 (poster) Effectiveness of the new chemical wood preservative Borosol 9® against a house longhorn beetle <i>Hylotrupes bajulus</i> G Babuder, M Petrič, F Čadež, M Humar, F Pohleven</p> <p>IRG/WP 04-30359 Laboratory Evaluation of the Formosan Subterranean Termite Resistance of Borate-treated Rubberwood Chipboard A H H Wong, J K Grace</p>	<p>IRG/WP 04-10506 Wood preservation using furanones derived from marine algae L J Cookson, R de Nys, P Steinberg, N Chew</p> <p>IRG/WP 04-10519 A questionnaire survey to establish the perceptions of UK specifiers concerning the key material attributes of timber for use in marine and fresh water engineering J R Williams, G S Sawyer, S M Cragg, J Simm</p> <p>IRG/WP 04-10520 Marine exposure assessment of the natural resistance of a number of lesser known species of tropical hardwoods to teredinid and limnoriid borers J R Williams, S M Cragg, L M S Borges, J D Icely</p> <p>IRG/WP 04-10525 Evaluating the potential of modified wood for use in marine environments using a short-term laboratory bioassay L M S Borges, S M Cragg, M Van der Zee</p> <p>IRG/WP 04-10528 Respiratory response of the wood boring teredinid, <i>Lyrodus pedicellatus</i> (Quatrefages) to copper stress V Kuppusamy, M Balaji, M V Rao, K S Rao</p>

TUESDAY 8 JUNE

Linhart Hall	Kosovel Hall	Room E1
15.30-17.30		
WP 4.4 Treatment processes, cont'd	WP 1.5/WP 2.5 Termites Conveners: Prof K Grace/Mr J Creffield	WP 2.2 Microbiological test methodology Convener: Dr Shuichi Doi
<p>IRG/WP 04-40278 A Review of the Factors Affecting Permeability in Softwoods I Usta</p> <p>IRG/WP 04-20292 The effect of rate of pressure application on preservative uptake along and across the grain of fir (<i>Abies bornmulleriana</i> Mattf.) at different ramp and constant pressure times I Usta</p> <p>IRG/WP 04-40281 Evaluation of fluid distribution in pressure treated wood in different flow directions A Omidvar, M H Schneider</p> <p>IRG/WP 04-40273 Upright capillary absorption behavior of five important timbers and one bamboo species of Bangladesh M A Islam, A K M A Bosunia, A K Saha, A K Lahiry</p> <p>IRG/WP 04-40290 (poster) Changed permeability and surface properties of hornbeam wood due to its degradation by erosive strain of <i>Phanerochaete chrysosporium</i> R Solár, S Kurjatko, L Reinprecht, M Mamoň, V Vacek</p> <p>IRG/WP 04-40292 (poster) Effect of medium-term degradation of beech wood by erosive (<i>Phanerochaete chrysosporium</i>) and lignin-selective (<i>Ceriporiopsis subvermispora</i>) strains of white rot fungi on its selected physical properties R Solár, S Kurjatko, M Mamoňová, J Hudec</p>	<p>IRG/WP 04-10516 Report on the efficacy and performance of the insecticide pyrazole in H2 field trials B Ahmed, P Vinden, J Hann, J R J French</p> <p>IRG/WP 04-10521 Biological control in termite management – the potential of nematodes and fungal pathogens M Lenz</p> <p>IRG/WP 04-10524 Is there a need for re-sealing cut ends of envelope-treated softwood framing timber to protect against attack from <i>Coptotermes</i> spp. (Isoptera)? M Lenz, J W Creffield, S Runko</p> <p>IRG/WP 04-10532 Response of the Formosan Subterranean Termite (<i>Coptotermes formosanus</i>) to Cellulose Insulation Treated with Boric Acid in Choice and No-Choice Tests M E Mankowski, J K Grace</p> <p>IRG/WP 04-10535 Effect of extractive fractions of <i>Thuja plicata</i> and <i>Chamaecyparis nootkatensis</i> heartwood on <i>Coptotermes formosanus</i> A M Taylor, B L Gartner, J J Morrell, K Tsunoda</p> <p>IRG/WP 04-10539 Evaluating the natural durability of native and tropical wood species against <i>Reticulitermes flavipes</i> R A Arango, F Green III, K Hintz, R B Miller</p>	<p>IRG/WP 04-20284 Accelerated laboratory soil contact decay test using soil amended with composted wood D D Nicholas, H Borazjani, T P Schultz</p> <p>IRG/WP 04-20289 The Efficacy of Wood Preservative Treatments in Laboratory Soil-Bed Test A Temiz, T Nilsson, Ü C Yildiz, E D Gezer, S Yildiz</p> <p>IRG/WP 04-20285 Comparative moisture uptake of Douglas fir and radiata pine structural lumber when exposed to rain wetting as an indicator of relative decay resistance M Hedley, G Durbin, L Wichmann-Hansen, L Knowles</p> <p>IRG/WP 04-20287 The influence of the location of a wood defect on the modulus of elasticity determination in wood durability testing L Machek, H Militz</p> <p>IRG/WP 04-20290 The full guideline for the “double layer test method” - A field test method for determining the durability of wood out of ground A O Rapp, U Augusta</p> <p>IRG/WP 04-20299 Moisture content and other tested values in Double layer tests of different size in Lithuania and Germany J Saladis, A O Rapp</p> <p>IRG/WP 04-20286 In-house accelerated method for testing decay-resistance of treated wood N Vidovic</p>

	<p>IRG/WP 04-20291 Termite resistance classification of some tropical and temperate species based on the laboratory choice test results against formosan termite, <i>Coptotermes formosanus</i> K Suzuki</p> <p>IRG/WP 04-20305 Evaluation of mark-release-recapture dyes for <i>Reticulitermes grassei</i> (Clément) (Isoptera: Rhinotermitidae) T Nobre, L Nunes, D E Bignell</p>	<p>IRG/WP 04-20301 (poster) Durability of surface coating systems. Mycologg - an accelerated mycological test L Ross Gobakken, J Mattsson, B Jacobsen, F G Evans</p>
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WEDNESDAY 9 JUNE

Linhart Hall

08.30-10.00

Section 2 Test methodology and assessment, Main session

Chairman: Dr Ina Stephan

Vice chairman: Ms Isabelle Le Bayon

IRG/WP 04-20304

Service Life Prediction of Wood Claddings by in-situ Measurement of Wood Moisture Content
B Lindegaard, N Morsing

IRG/WP 04-20298

A novel guide for the determination of the physical properties of wood including kiln drying and full-cell preservative treatment
I Usta, M D Hale

IRG/WP 04-20297

Test Methods – Performance Based Requirements
M-L Edlund, F Englund, J Jermer, T Nilsson, M Westin, K Ödeen

10.30-12.00

Section 4 Processes and properties, Main session

Chairman: Dr Joris Van Acker

Vice chairman: Dr Andreas Rapp (acting)

IRG/WP 04-40270

Microdistribution of Copper in Copper-Ethanolamine (Cu-EA) Treated Southern Yellow Pine (*Pinus* spp.) related to density distribution
J Cao, D P Kamdem, E Pasek

IRG/WP 04-40279

Determination of the water sorption properties and preliminary results from field tests above ground of thermally modified material from industrial scale processes
C R Welzbacher, A O Rapp

IRG/WP 04-40285

Novel wood modification processes for window and cladding products
A Krause, C Hof, H Militz

IRG/WP 04-40293

Sustainability Through New Technologies for Enhanced Wood Durability. COST Action E37 – A New Action in the Forestry Domain
R-D Peek

THURSDAY 10 JUNE

Linhart Hall	Kosovel Hall	Room E1
08.30-10.00		
WP 5.1 Environmental management Convener: Ms Carol Clausen	WP 4.2 Substrate modification and non-biocidal treatments Convener: Prof Dr Holger Miltz	WP 1.1 Physiology of decay Convener: Dr Fredrick Green III
<p>IRG/WP 04-50210 Fungal remediation of CCA-treated wood S N Kartal, Y Imamura</p> <p>IRG/WP 04-50217 Economic analysis of the chemicals used on remediation copper, chromium and arsenic from out of service CCA-treated utility poles in Turkey Ü C Yildiz, D Toksoy, E D Gezer</p> <p>IRG/WP 04-50212 Alternatives to CCA-treated <i>Pinus radiata</i> as vineyard posts M Mollah, J Smith, K McCarthy, L Cookson</p> <p>IRG/WP 04-50221 Chemical Remediation of Beech Condensates M Irmouli, J P Haluk</p> <p>IRG/WP 04-50223 The effect of a chelator mediated Fenton system on activation of TMP fibers and decolorization of synthesized dyes Y Qian, B Goodell, J Jellison</p> <p>IRG/WP 04-50211 Present status and potentiality of the economic utilization of the sawmill residue and wastage in Bangladesh M A Islam, M S Rahman, A K M A Bosunia, A K Lahiry</p>	<p>IRG/WP 04-40275 Investigation of the suitability of silver fir (<i>Abies alba</i> Mill.) for thermal modification C Brischke, A O Rapp</p> <p>IRG/WP 04-40283 The effects of heat treatment on the toughness of beech wood S Yildiz, Ü C Yildiz, E D Gezer, A Temiz, E Dizman</p> <p>IRG/WP 04-40284 The effects of heat treatment on anatomical changes of beech wood Ü C Yildiz, Z Gercek, B Serdar, S Yildiz, E D Gezer, E Dizman, A Temiz</p> <p>IRG/WP 04-40287 Characteristics of thermally modified wood in vacuum G Rep, F Pohleven, B Bucar</p> <p>IRG/WP 04-40272 Decay and termite durabilities of heat treated wood S Doi, K Hanata, E Kamonji, Y Miyazaki</p>	<p>IRG/WP 04-10508 Investigations into the biology of <i>Meruliporia incrassata</i> J Jellison, C Howell, B Goodell, S L Quarles</p> <p>IRG/WP 04-10511 The dry rot fungus <i>Serpula lacrymans</i>, its growth and damaging of wood L Reinprecht</p> <p>IRG/WP 04-10541 The Relationship of Fiber Cell Wall Ultrastructure to Soft Rot Decay in Kempas (<i>Koompassia malaccensis</i>) Heartwood A P Singh, A H H Wong, Y S Kim, S G Wi</p> <p>IRG/WP 04-10514 Influence of acidification on decay processes of CCB treated wood M Humar, S A Amartey, M Šentjurc, F Pohleven</p> <p>IRG/WP 04-10510 Influence of the decay of spruce chips by the selected fungi on their chemical structure and the pulp properties R Solár, L Reinprecht, A Geffert, F Kačík</p>

THURSDAY 10 JUNE

Linhart Hall	Kosovel Hall	Room E1
10.30-11.30		
WP 4.1 Special session: Historic wood preservation Convener: Prof Dr Franci Pohleven	WP 4.2 Substrate modification... cont'd	WP 2.4 International standardi- sation Convener: Dr Michael Hedley
<p>IRG/WP 04-40291 A new approach on conservation of wooden heritage R J Koestler, Č Tavzes, F Pohleven</p> <p>IRG/WP 04-40286 Surface Barriers for Protection of Wooden Cultural Heritage Objects from Insect Attack M Petric, M Pavlic, M Tomazic, B Kricej, M Humar, F Pohleven</p>	<p>IRG/WP 04-40288 Durability of pine modified by 9 different methods M Westin, A O Rapp, T Nilsson</p> <p>IRG/WP 04-40289 Wood furfurylation process and properties of furfurylated wood M Westin, S Lande, M H Schneider</p> <p>IRG/WP 04-40274 Photo-discoloration and Degradation of Wood and its Stabilisation by Modification with Benzoyl Chloride K K Pandey</p> <p>IRG/WP 04-20296 Evaluation of outdoor weathering performance of modified wood Y Schulte, S Donath, A Krause, H Militz</p>	<p>IRG/WP 04-20300 Wood preservation and specifications in China M Jiang</p> <p>IRG/WP 04-20288 Changes to New Zealand Timber Treatment Specifications M Hedley</p>

THURSDAY 10 JUNE

Linhart Hall	Kosovel Hall	Room E1
13.30-15.00		
WP 3.3 Preservative performance Convener: Dr Eckhard Melcher	WP 2.3 Chemical/physical analysis Convener: Dr Michael Kennedy (acting)	WP 1.7 Natural durability Convener: Dr Mark Mankowski (acting)
<p>IRG/WP 04-30329 Present status of using treated wood and private house owner's expectations in Bangladesh M A Islam, A K M A Bosunia, S C Ghosh, M O Hannan, A K Lahiry</p> <p>IRG/WP 04-30332 A Soil Bed Test of the Effect of CCA Penetration on the Performance of Hem-fir Plywood P I Morris, J K Ingram</p> <p>IRG/WP 04-30337 Leachability and decay resistance of copper-treated wood A Temiz, T Nilsson, I Demirtas, Ü C Yildiz</p> <p>IRG/WP 04-30338 Efficacy of Didecyl Dimethyl Ammonium Chloride (DDAC), Disodium Octaborate Tetrahydrate (DOT), and Chlorothalonil (CTL) against Common Mold Fungi J A Micales Glaeser, J D Lloyd, T L Woods</p> <p>IRG/WP 04-30340 Fungicidal properties of wood tar being a side product of pyrolysis of previously treated wood with preservatives B Mazela, M Kielczewski, W Grzeskowiak</p> <p>IRG/WP 04-30341 Investigation of anomalous fixation and leaching of CCA-treated red maple S Radivojevic, P A Cooper</p> <p>IRG/WP 04-20306 Aboveground microbial decay test of biocide treated and untreated wood exposed to Danish and humid tropical climates A H H Wong, N Morsing, K H Henriksen, S Ujang</p>	<p>IRG/WP 04-20294 NIR spectroscopy for rapid estimation of decay resistance P O Flæte, E Ystrøm Haartveit</p> <p>IRG/WP 04-20295 Prediction of Weight Percent Gain (WPG) of furfurylated wood by FT-NIR spectroscopy M Eikenes, P O Flæte, E Ystrøm Haartveit, S Lande</p> <p>IRG/WP 04-40282 Monitoring a Timber Bridge in Norway F G Evans</p>	<p>IRG/WP 04-10522 A study of wood quality of <i>Juglans nigra</i> and hybrid walnut (MJ 209xRA) : durability against <i>Coriolus versicolor</i>, density and MOR B Charrier, F Charrier, D P Kamdem, J B Aurel, G Janin</p> <p>IRG/WP 04-10526 Variation of natural durability of sugi (<i>Cryptomeria japonica</i>) wood in 15 clones examined by decay test (Preliminary report) K Yamamoto, A Tamura, R Nakada</p> <p>IRG/WP 04-10531 Intraspecific variability of durability of Wapa courbaril (<i>Eperua grandiflora</i>) against <i>Antrodia sp.</i> and <i>Coriolus versicolor</i>: effect of radial and height position in the stem N Amusant, J Beauchêne, M Fournier</p> <p>IRG/WP 04-10518 Alternative timbers to Iroko (<i>Milicia excelsa</i>) for various end-uses: Ghana's offer S A Amartey, Z Huang, A Attah</p> <p>IRG/WP 04-10536 Effects of heartwood extractives in Dahoma (<i>Piptadeniastrum africanum</i>) on decay resistance to white- and brown-rot fungi Z Huang, K Maher, S A Amartey</p> <p>IRG/WP 04-10530 The influence of extractives on the natural durability of selected Ghanaian hardwoods C Antwi-Boasiako, A J Pitman, J Barnett</p>

THURSDAY 10 JUNE

Linhart Hall

Room E1

15.30-17.00

WP 3.3 Preservative performance, cont'd

WP 1.7 Natural durability, cont'd

IRG/WP 04-30342

Effect of species, retention and conditioning temperature on copper stabilization and leaching for ACQ-D

Y T Ung, P A Cooper

IRG/WP 04-30350

PXTS: A Metal Free Oligomer Wood Preserving System - A Summary of Data to Date

M H Freeman, D D Nicholas, D Renz, R Buff

IRG/WP 04-30352

The effective control of moulds on freshly impregnated wood

G Cofta, K Lutomski, P Jüngel

IRG/WP 04-30354

Screening of the efficacy of tall oils against wood decaying fungi

G Alfredsen, P O Flæte, A Temiz, M Eikenes, H Militz

IRG/WP 04-30356 (poster)

Evaluation of teak sawdust *Tectona grandis* L. Fil as a potential source to obtain a natural wood preservative in Colombia

A Castillo, Y Cabrera, A Preston, R Morris

IRG/WP 04-30357 (poster)

Fungal decay of acrylate treated wood

Z Tiralová, L Reinprecht

IRG/WP 04-10540

Evaluating the natural durability of a number of lesser known species of Ghanaian hardwoods using a short term laboratory assay

J R Williams, S M Cragg, L M S Borges, B Shayler

IRG/WP 04-10542

Natural Durability studies and Changes in wood chemistry of some Ghanaian hardwoods during decay by white- and brown-rot fungi

Z Huang, K Maher, S Amartey

IRG/WP 04-10537

Evaluation of the natural durability and ultrasonic method for decay detection of some European hardwood and softwood species

F Faraji, M F Thévenon, B Thibaut

IRG/WP 04-30336

In-ground field test of Scots pine (*Pinus sylvestris* L.) sapwood and heartwood

H Sivrikaya, H Hafizoğlu

IRG/WP 04-10517

Laboratory determination of the natural decay resistance of some lesser-utilized timbers from Tanzania against wood decay fungi

P R Gillah, R C Ishengoma, E Julias, S A Amartey, D H Kitojo

IRG/WP 04-10504

Physical properties variation of sound and top dying affected sundriwood (*Heritiera fomes*) in mangrove forest of Bangladesh

S C Ghosh, A K M A Bosunia, M A Islam, A K Lahiry

	<p>IRG/WP 04-10509 Occurrence of marine wood borers at three ports in Andhra Pradesh, India B Tarakanadha, M Balaji, R Ramamurthi, K Satyanarayana Rao</p> <p>IRG/WP 04-10513 Resistance of Teak, Balau, Keruing and Chengal wood species against marine borers attack A Rezanejad</p>
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